

IN THE SPECIFICATION

Please replace the paragraph beginning at page 1, numbered line 11, with the following rewritten paragraph:

The invention relates to an electronic equipment with a fluid leakage detection unit and, more particularly, relates to an electronic equipment using a fluid device, such as a fuel cell or a fluid cooling system, with a fluid leakage detection unit for leakage detection of the fluid used in the fluid device.

Please replace the paragraph beginning at page 1, numbered line 18, with the following rewritten paragraph:

Recently, it is diligently considered that an application of a fuel cell to a power source of a portable electronic equipment, such as a cellular phone, a notebook type PC and such, is diligently being studied. As such, a fuel cell, a direct methanol fuel cell (DMFC, hereinafter), in which methanol aqueous solution is directly used as a fuel for power generation, is now considered to be preferable.

Please replace the paragraph beginning at page 3, numbered line 6, with the following rewritten paragraph:

According to a first aspect of the invention, an electronic equipment is provided with a fluid device using fluid including an additive, a main body comprising an installation site for installation of the fluid device and a detection part configured to ~~reserve~~ contain leaked fluid to make the leaked fluid visible with the additive and disposed on the installation site whereby leakage of the fluid is detected.

Please replace the paragraph beginning at page 4, numbered line 8, with the following rewritten paragraph:

According to a fifth aspect of the invention, a fuel cell unit is provided with a fuel cell main body, a fuel tank supplying fuel including an additive to the fuel cell main body, a casing housing the fuel cell main body and the fuel tank and one or more detection parts ~~reserving~~ containing leaked fuel configured to make the leaked fuel visible by means of the additive whereby leakage of the fuel is detected, the detection part being disposed on at least one element selected from the group of the fuel cell main body, the fuel tank and the casing.

Please replace the paragraph beginning at page 4, numbered line 22, with the following rewritten paragraph:

Fig. 2 is a sectional view of a leakage ~~reserving~~ containing structure for leakage detection according to a first embodiment of the present invention;

Please replace the paragraph beginning at page 4, numbered line 25, with the following rewritten paragraph:

Fig. 3 is a sectional view of a leakage ~~reserving~~ containing structure for leakage detection according to a modification of the first embodiment;

Please replace the paragraph beginning at page 5, numbered line 2, with the following rewritten paragraph:

Fig. 4 is a sectional view of a leakage ~~reserving~~ containing structure for leakage detection according to another modification of the first embodiment;

Please replace the paragraph beginning at page 6, numbered line 20, with the following rewritten paragraph:

The installation site 3 is provided with fluid leakage detection means 5 for detection of leakage of the fuel or any other fluid. In this example, a leakage ~~reserving~~ containing structure 7 is formed at a bottom of the installation site 3 as shown in Fig. 2.

Please replace the paragraph beginning at page 6, numbered line 25, with the following rewritten paragraph:

The leakage ~~reserving~~ containing structure 7 is provided with several narrow grooves 9, according to this example, so as to ~~reserve~~ contain the fluid by means of surface tension thereof. An additive, such as a pigment or a dye, is added to the fluid in advance so as to leave a visible residue at the leakage ~~reserving~~ containing structure 7 after the fluid has evaporated. The leakage ~~reserving~~ containing structure 7 is preferably white-colored so as to make the additive in the fluid easily visible. As the additive, a proper pigment or dye which has a color for ease of observation, is soluble in the fluid and becomes a residue when the fluid has evaporated should be selected. "C.1.No.16045 (Daiwa Kasei Co.,Ltd.)" as a red dye, phthalocyanine pigment as a blue pigment and "C.1.acid yellow 7" as a yellow dye can be exemplified as the additive.

Please replace the paragraph beginning at page 7, numbered line 13, with the following rewritten paragraph:

The constitution of the leakage ~~reserving~~ containing structure 7 is not limited to the aforementioned structure. For example, one or more recesses or projections which are densely disposed, laid fibers, porous material or proper combination thereof can be preferably applied to the constitution. Namely, any constitution which functions as means for properly

~~reserving~~ containing the fluid leakage can be applied. Additionally, in a case where the grooves or the recesses cause a concern about strength reduction of the casing 1C, the casing 1C in the vicinity of the leakage ~~reserving~~ containing structure 7 may be formed so as to have a thick wall as shown in Fig. 2.

Please replace the paragraph beginning at page 7, numbered line 24, with the following rewritten paragraph:

As will be understood from the above description, in a case where the fluid is leaked from the fluid device, the leakage is ~~reserved~~ contained by the leakage ~~reserving~~ containing structure 7 and hence detected by visual observation. When the fluid is colored in advance as mentioned above, the leakage is further easily detected. On an occasion of maintenance of the electronic equipment main body 1, any trouble with the fluid device can be easily recognized and hence brought to be repaired.

Please replace the paragraph beginning at page 8, numbered line 6, with the following rewritten paragraph:

In the aforementioned description, the leakage ~~reserving~~ containing structure 7 is disposed at the bottom of the installation site 3, however, the leakage ~~reserving~~ containing structure 7 may be formed at an inside of a lid portion 11 for covering the installation site 3. In this case, it is preferable that the lid portion 11 partially includes a transparent portion 13 made of transparent resin and such and the leakage ~~reserving~~ containing structure 7 is disposed so as to be visible through the transparent portion 13, as shown in Fig. 3. Then, the leakage of the fluid can be detected from the outside of the electronic equipment main body 1 even when in use and therefore proper treatments, such as switching OFF, can be easily and quickly done.

Please replace the paragraph beginning at page 8, numbered line 18, with the following rewritten paragraph:

The leakage ~~reserving~~ containing structure 7 may be further provided with a sensor 15 having electrodes 17 so as to electrically detect the leakage of the fluid or intrusion of water from the outside. The electrodes 17 are respectively formed on lands between the grooves 9, as shown in Fig. 4. ~~Electric property~~ Electrical properties, such as resistance and capacitance, between the electrodes 17 ~~is~~ are measured so that the leakage or the intrusion can be detected.

Please replace the paragraph beginning at page 8, numbered line 25, with the following rewritten paragraph:

The aforementioned constitution, in which the leakage or the intrusion is electrically detected by the sensor 15, allows that a fact of the detection can be employed for electrical processing. In a case where the electronic equipment main body 1 is provided with a controller unit 19, such as a CPU and a clock 21, a time when the leakage happens can be recorded in a storage unit 23, such as a memory, and a fact of the leakage can be announced to the user by means of an announcement unit 25. Fig. 5 shows a block diagram preferable for such a constitution.

Please replace the paragraph beginning at page 9, numbered line 16, with the following rewritten paragraph:

Furthermore, the controller unit 19 may be provided with a response unit 31 for proper response to the leakage. The response unit 31, for example, may be so configured as to automatically switch the electronic equipment main body 1 OFF, transmit a mail including

an alarm message to a mail address, which may be registered in advance, and proceed such a response.

Please replace the paragraph beginning at page 9, numbered line 22, with the following rewritten paragraph:

Still ~~furthermore~~ further, an adhesive tape 33 constituted as shown in Fig. 7 may be employed as the fluid leakage detection means 5, which may be adhered to any proper internal place of the electronic equipment main body 1, where the water intrusion or the fluid leakage may happen.

Please replace the paragraph beginning at page 10, numbered line 8, with the following rewritten paragraph:

Alternatively, the water-soluble area 35 and the alcohol-soluble area 37 may be respectively printed on two independent adhesive tapes 35T, 37T, as shown in Fig. 8. The two adhesive tapes 35T, 37T may be adhered on a base tape 43 in parallel, as shown in Figs. 9A, 9B. Adhesive 39 is coated on a backside of the base tape 43 and a peel-off backing paper 41 is adhered further thereon.

Please replace the paragraph beginning at page 10, numbered line 15, with the following rewritten paragraph:

The tapes 35T, 37T and 43 are preferably provided with perforated lines 45 at proper even intervals in the longitudinal direction thereof, as shown in Fig. 9B. The perforated lines 45 are preferably formed in an enough depth to separate the tapes 35T, 37T and 43 in the longitudinal direction and do not reach the peel-off backing paper 41.

Please replace the paragraph beginning at page 10, numbered line 25, with the following rewritten paragraph:

In a case where the water intrudes into the electronic equipment main body 1, the water-soluble area 35 blots. In a case where the fluid (the fuel for the fuel cell, which includes alcohol) leaks from the fluid device, the alcohol-soluble area 37 blots. Thereby, it can be easily judged whether the water intrusion occurs or the fluid leakage occurs, by means of a visible check. Therefore, the adhesive tape 33 can be employed as liquid discrimination means for distinguishing between the water intrusion and the fluid leakage.

Please replace the paragraph beginning at page 11, numbered line 15, with the following rewritten paragraph:

The adhesive tape 33 may be further provided with temperature sensors 47 including dyes which irreversibly change colors when the temperature reaches a predetermined value, as shown in Fig. 10. Preferably, the dyes of the temperature sensors 47, respectively, have independent temperatures for changing colors. For example, one changes its color at 80 °C, another at 90 °C, and the other at 100 °C.

Please replace the paragraph beginning at page 11, numbered line 22, with the following rewritten paragraph:

The adhesive tape 33 provided with the temperature sensors 47 may be adhered on certain places in the electronic equipment main body 1 so that abnormal temperature increase as well as the fluid leakage can be detected. In a case where any abnormality, such as resin deformation, which is caused by such an abnormal temperature, happens, the temperature sensors 47 teach the abnormal temperature. Those who check the temperature sensors 47 may estimate a cause of the abnormality, such as leaving the electronic equipment main body

1 in a hot car cabin and abnormal temperature increase of the fuel cell. He or she may judge whether the fuel cell or the resin therein should be changed.

Please replace the paragraph beginning at page 12, numbered line 8, with the following rewritten paragraph:

In the above description, the electronic equipment main body 1 houses the fuel cell as the power source thereof, however, the electronic equipment main body 1 can be operated with an external fuel cell unit 49, which is detachably attached to the electronic equipment main body 1, as shown in Fig. 11. The fuel cell unit 49 is preferably constituted as shown in Fig. 12.

Please replace the paragraph beginning at page 13, numbered line 3, with the following rewritten paragraph:

A porous filler 73, such as a sponge, is filled around the fuel cell 59 and the fuel tank 61. Plural adhesive tapes 33 are adhered on places, where the fluid leakage would be detected, of the fuel cell 59, the fuel tank 61 and the inside of the casing 53.

Please replace the paragraph beginning at page 13, numbered line 8, with the following rewritten paragraph:

The fuel cell 59 generates electric power by means of reaction between the fuel supplied by the fuel supply pump 57 from the fuel tank 61 and the air supplied by the air supply pump 55. Reaction products, such as water vapor and spent air, are exhausted through the exhaust pipe 67 to the outside of the casing 53. Unreacted matters, such as unreacted fuel, are retrieved via the recovery pipe 65 to the fuel tank 61.



Please replace the paragraph beginning at page 13, numbered line 15, with the following rewritten paragraph:

In a case where water intrudes into the casing 53 and/or the fuel leaks from the fuel tank 61, the fuel cell 59 or the pipes, the water intrusion or the fluid leakage as well as an approximate location thereof can be detected by means of the adhesive tapes 33. Additionally, abnormal ~~high-temperature~~ high-temperatures can be detected by means of the adhesive tapes 33.

Please replace the paragraph beginning at page 13, numbered line 22, with the following rewritten paragraph:

Provided that only one of the adhesive tapes 33, which is adhered on the fuel cell 59, indicated color change, it could be judged that the temperature increase of the fuel cell 59 caused the abnormal high-temperature. Meanwhile, in a case where all the adhesive tapes 33 indicated color change, this situation means that the whole of the casing 53 was in a high-temperature environment, for example, the casing 53 might be left in a car cabin ~~when~~ during fine weather.

Please replace the paragraph beginning at page 14, numbered line 4, with the following rewritten paragraph:

Furthermore, provided that the fuel cell unit 49 falls ~~down-over~~ on the ground, the fuel cell 59 and the fuel tank 61 are protected from impact because the porous filler 73 is filled therearound.

Please replace the paragraph beginning at page 14, numbered line 15, with the following rewritten paragraph:

As being understood from the above description, the present embodiment of the present invention enables detection of the fluid leakage from the fluid device distinguishably from the water intrusion from the outside. Furthermore, in a case where the electronic equipment has a problem caused by abnormal high-temperature, it can be judged whether the problem comes from heat generation of the electronic equipment per se or the external environment.